Most Frequently Occurring Classifications of Patents Returned
From A Search of 10765783 on February 14, 2006

Original Classifications

| | |
|---|---|
| 6 | 178/18.04 |
| 6 | 345/173 |
| 4 | 307/116 |
| 3 | 84/658 |
| 3 | 235/472.01 |
| 3 | 341/33 |
| 3 | 348/96 |
| 2 | 4/623 |
| 2 | 62/137 |
| 2 | 178/18.06 |
| 2 | 219/124.34 |
| 2 | 250/221 |
| 2 | 257/59 |
| 2 | 323/322 |
| 2 | 345/178 |
| 2 | 356/602 |
| 2 | 374/150 |
| 2 | 427/8 |
| 2 | 431/278 |

Cross-Reference Classifications

| | |
|---|---|
| 8 | 345/174 |
| 7 | 345/177 |
| 5 | 345/173 |
| 4 | 178/18.01 |
| 4 | 178/18.03 |
| 4 | 178/18.06 |
| 4 | 235/462.45 |
| 4 | 341/33 |
| 3 | 250/559.33 |
| 3 | 307/652 |
| 3 | 327/517 |
| 3 | 345/179 |
| 2 | 4/628 |
| 2 | 33/707 |
| 2 | 73/864.24 |
| 2 | 84/659 |
| 2 | 126/39E |
| 2 | 126/39N |
| 2 | 137/883 |
| 2 | 137/887 |
| 2 | 178/18.05 |
| 2 | 178/19.02 |
| 2 | 200/600 |
| 2 | 215/11.2 |
| 2 | 219/137.71 |
| 2 | 235/462.14 |
| 2 | 235/462.43 |
| 2 | 235/462.44 |
| 2 | 250/221 |
| 2 | 250/223B |
| 2 | 250/237G |
| 2 | 250/559.22 |
| 2 | 251/65 |
| 2 | 257/E21.703 |
| 2 | 257/E27.111 |
| 2 | 307/115 |
| 2 | 307/116 |

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| 2 | 307/125 |
| 2 | 307/140 |
| 2 | 340/586 |
| 2 | 341/34 |
| 2 | 345/156 |
| 2 | 345/175 |
| 2 | 348/103 |
| 2 | 356/442 |
| 2 | 367/907 |
| 2 | 399/16 |
| 2 | 399/371 |
| 2 | 431/256 |
| 2 | 431/266 |

Combined Classifications

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|---|---|
| 11 | 345/173 |
| 8 | 345/174 |
| 8 | 345/177 |
| 7 | 178/18.04 |
| 7 | 341/33 |
| 6 | 178/18.06 |
| 6 | 307/116 |
| 5 | 178/18.03 |
| 4 | 178/18.01 |
| 4 | 235/462.45 |
| 4 | 250/221 |
| 3 | 84/658 |
| 3 | 178/18.05 |
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| 3 | 327/517 |
| 3 | 345/175 |
| 3 | 345/179 |
| 3 | 348/96 |
| 3 | 356/602 |
| 2 | 4/623 |
| 2 | 4/628 |
| 2 | 33/707 |
| 2 | 62/137 |
| 2 | 73/304C |
| 2 | 73/725 |
| 2 | 73/864.24 |
| 2 | 84/659 |
| 2 | 126/39E |
| 2 | 126/39N |
| 2 | 137/883 |
| 2 | 137/887 |
| 2 | 178/19.02 |
| 2 | 178/20.04 |
| 2 | 215/11.2 |
| 2 | 219/124.34 |
| 2 | 219/137.71 |
| 2 | 222/52 |
| 2 | 235/462.14 |
| 2 | 235/462.42 |
| 2 | 235/462.43 |
| 2 | 235/462.44 |
| 2 | 250/223B |
| 2 | 250/237G |
| 2 | 250/559.22 |
| 2 | 251/65 |

2 257/59
2 257/E21.703
2 257/E27.111
2 307/115
2 307/125
2 307/140
2 323/322
2 340/586
2 340/825.19
2 341/26
2 341/34
2 345/156
2 345/178
2 348/103
2 356/442
2 358/400
2 362/156
2 367/907
2 374/150
2 399/16
2 399/371
2 427/8
2 431/256
2 431/266
2 431/278

EAST - [10674146.wsp: 1]

File View Edit Tools Window Help

- Drafts
  - IS&R:
- Pending
- Active
  - L1: (148) (("(6289267") or ("6292717") or ("6225986") or ("6225986
  - L2: (21362) touch near9 sens$3
  - L3: (78) 1 and 2
  - L4: (624) voltage with 2
  - L6: (17) 1 and 4
  - L5: (67) power with 4
- Failed
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DBs | US-PGPUB; USPAT; USOCR; EPO; JPO; DEI | Plurals

Default operator: OR | Highlight all hit terms initially

BRS form | IS&R form | Image | Text | HTML

| | U | | Document ID | Issue Date | Pages | Title | Current OR | Current XRef | Retrieval Cla | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | ☐ | ☑ | US 6822683 B1 | 20041123 | 7 | Image sensing apparatus and method of controlling operation | 348/333.13 | 348/207.99; 348/221.1; | | Torikai; T |
| 2 | ☐ | ☑ | US 20060022959 A1 | 20060202 | 15 | Touch screen with selective touch sources | 345/173 | | | Geagha |
| 3 | ☐ | ☑ | US 20020036621 A1 | 20020328 | 7 | Methods and apparatus for supplying power to touch input | 345/173 | | | Liu, Qian |
| 4 | ☐ | ☑ | US 6753853 B1 | 20040622 | 25 | Low power dissipation touch plane interface circuit | 345/173 | 178/18.05 | | Dotson; |
| 5 | ☐ | ☑ | US 4816698 A | 19890328 | 8 | Touch control circuit for incandescent lamps and the | 307/116 | 307/114; 315/362; | | Hook; Gl |
| 6 | ☐ | ☑ | US 5650597 A | 19970722 | 25 | Capacitive touch sensor | 178/18.06 | 178/19.04; 341/33; | | Redmay |
| 7 | ☐ | ☑ | US 5801340 A | 19980901 | 23 | Proximity sensor | 178/20.04 | 341/33; 345/174 | | Peter; W |
| 8 | ☐ | ☑ | US 5783875 A | 19980721 | 6 | Touch sensor circuit | 307/116 | 307/125; 307/126; | | Jaros; Je |
| 9 | ☐ | ☑ | US 4581483 A | 19860408 | 13 | Interface circuitry for interconnecting touch tablet | 178/20.01 | 345/174 | | Ralston; |

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NUM

US005875311A

# United States Patent [19]

Bertram et al.

[11] Patent Number: 5,875,311

[45] Date of Patent: *Feb. 23, 1999

[54] **COMPUTER SYSTEM WITH TOUCHPAD SUPPORT IN OPERATING SYSTEM**

[75] Inventors: Randal Lee Bertram; James Lee Combs, both of Lexington, Ky.

[73] Assignee: International Business Machines Corporation, Armonk, N.Y.

[*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,613,137.

[21] Appl. No.: 691,049

[22] Filed: Aug. 1, 1996

Related U.S. Application Data

[63] Continuation of Ser. No. 210,610, Mar. 18, 1994, Pat. No. 5,613,137.

[51] Int. Cl.[6] ..... G06F 15/00

[52] U.S. Cl. ..... 395/309; 395/892; 395/893; 395/500; 395/800.32

[58] Field of Search ..... 395/820, 309, 395/892, 893, 500, 800.32

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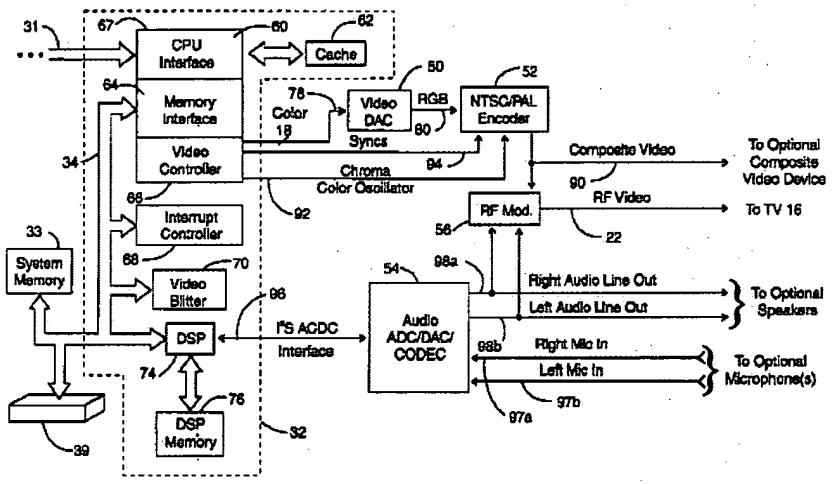
| 5,613,137 | 3/1997 | Bertram et al. | 395/309 |

*Primary Examiner*—Larry D. Donaghue
*Assistant Examiner*—John Follansbee
*Attorney, Agent, or Firm*—Anthony N. Magistrale

[57] ABSTRACT

A computer system comprising a central processing unit (CPU) configured to accept coordinate type data from a touchpad or the like. The CPU has an operating system executing thereon with special support for interfacing to the touchpad. The operating system has the following capabilities: (1) mapping out geometric regions of the touchpad and assign the regions to specific region identifiers responsive to application programs and (2) determining the region identifier of a touched region and passing that region identifier to the application program. Support is also provided for changing the units of the commands used to define the regions.

24 Claims, 11 Drawing Sheets

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| | U | 1 | Documen | Issue D | Pa | Current | Current | Title |
|---|---|---|---|---|---|---|---|---|
| 1 | ☐ | ☐ | US 20050 | 200508 | 12 | 73/865.4 | 702/150; | Data input device |
| 2 | ☐ | ☐ | US 60292 | 200002 | 22 | 710/73 | 345/173; | Input tablet system with u |
| 3 | ☐ | ☑ | US 54044 | 199504 | 19 | 710/73 | 345/173 | Recognizing the cessatio |
| 4 | ☐ | ☐ | US 65678 | 200305 | 10 | 710/58 | 710/60; | Input device for informati |
| 5 | ☐ | ☑ | US 58753 | 199902 | 26 | 710/305 | 710/72; | Computer system with to |
| 6 | ☐ | ☐ | US 66812 | 200401 | 11 | 710/16 | 345/156; | Dual pointing screen curs |
| 7 | ☐ | ☐ | US 69037 | 200506 | 12 | 345/156 | 345/173; | Computer system having |

Details | Text | Image | HTML

US-PAT-NO: 5875311

DOCUMENT-IDENTIFIER: US 5875311 A

TITLE: Computer system with touchpad support in operating system

——— KWIC ———

Detailed Description Text - DETX (60):
FIG. 2F shows the slot 114 that retains the overlay 102 on three sides. Also shown in that figure are the touchpad sensor 122, an overlay sensor 124, a cavity 126 for storing a plurality of template overlays 102, and a substantially rigid base 127 made of the same material as the enclosure 100 that provides a resistive force sufficient to allow a touch of the sensor 122 to be detected.

Detailed Description Text - DETX (61):
The touchpad sensor 122 is located proximate to said pad surface 110 and is configured in such a manner that pressure on or near the pad surface 110 by the finger, stylus 21, or the like allows the sensor 122 to detect the location of the touch.

Detailed Description Text - DETX (73):
The coordinate sensor 122 and overlay sensor 124 are as described above in the text accompanying FIG. 2. The coordinate determining circuitry 202 is in circuit communication with the coordinate sensor 122, the interface

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